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A New Glyptothripine Genus and Species (Thysanoptera,  
Phlaeothripidae) from Japan

*With 2 Text-figures*

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**ABSTRACT** A new genus and species of Glyptothripini, Phlaeothripidae, from the leaf-litter of warm-temperate forests in Japan, *Pentagonothrips antennalis* gen. et sp. nov. is described and illustrated. It has morphological segments VI, VII and VIII of antennae fused into one, and lacks wings and ocelli.

More than a hundred thrips species extracted from leaf-litter by a funnel method, which have polygonally reticulate head and bulged eyes, have been described mainly from the New World. They are also characterized by having dorsoventrally flattened body, sparsely fringed wings and antennal segments VII and VIII condensed or fused into one segment.

Stannard (1955) pointed out that those characteristics often reappear by parallel evolutionary development in several descent lines of no close relationships, and those reticulate-headed thrips necessarily do not form one group.

Recently, Mound (1977) discussed them and revised the tribe Glyptothripini Priesner. He included 21 genera in this tribe, provided a key to the world species of Glyptothripini, and suggested that the present species is closely related to the species of the genus *Pedoeothrips* Hood.

Genus *Pentagonothrips* nov.

Flattened small brown thrips belonging to the tribe Glyptothripini of the subfamily Phlaeothripinae.

Head a little longer than wide, somewhat produced in front of eyes, strongly incut just behind eyes, with distinct polygonal reticulations; cheeks serrate, angulated behind eyes, distinctly constricted basally; postocular setae well developed, situated just behind eyes; eyes relatively small, with bulged ommatidia, ocelli completely degenerate; antennae each eight-segmented, but segments VI, VII and VIII fused, sense-cones long and slender, setiform; mouth-cone short, broadly rounded; maxillary stylets V-shaped; maxillary bridge absent.

Pronotum reticulated partially; anteromarginal setae equally developed to anteroangular setae; epimeral suture complete; praepectal plate absent; probasisternum well developed; mesonotum without median cleft; prothoracic ventrolateral setae small and acute; foretarsal tooth present in both sexes.

Pelta broad, shaped as an ellipse; abdominal tergites weakly sculptured partially, without wing retaining setae; setae on tergite IX shorter than tube; tube much shorter than head, surface with weak reticulation; terminal setae shorter than tube.

Type-species: *Pentagonothrips antennalis* sp. nov.

This genus is related to the South American genus *Pedoeothrips* Hood in the developed anteromarginal setae of pronotum and fused terminal segments of antennae, and to the North American genus *Glyptothropis* Hood in the shape and heavy reticulation of head, fused terminal segments of antennae, and shorter tube. However, it is distinguished from *Glyptothropis* by having developed anteromarginal prothoracic setae and completely degenerate praepectus. From *Pedoeothrips* it differs in the absence of expanded head setae except for a pair of postocular setae. Moreover, the genus has antennal segments VI and VII combined, and the three terminal antennal segments seem to form one segment.

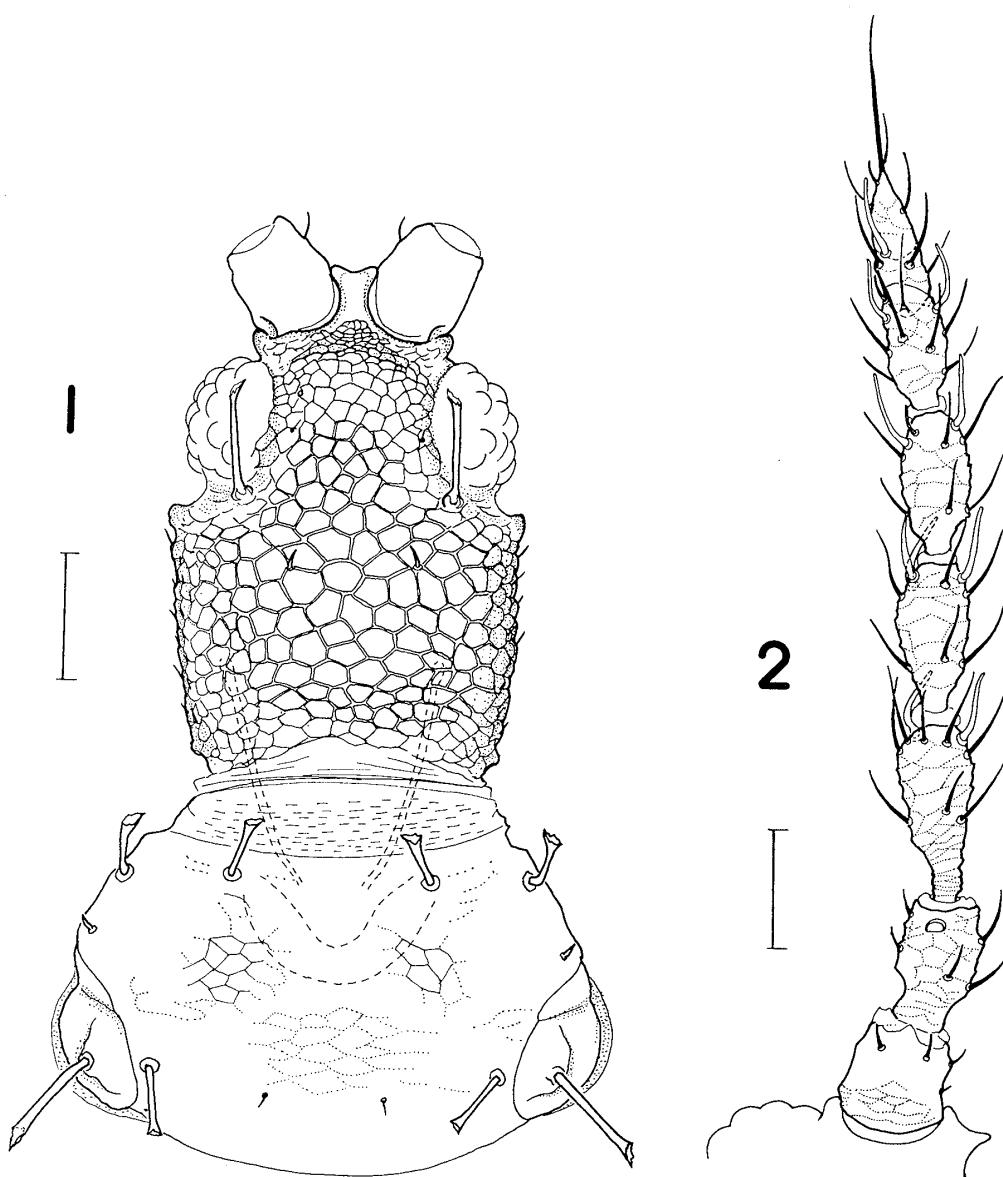
#### *Pentagonothrips antennalis* sp. nov.

(Fig. 1-2)

*Female (apterous).* Body length 1.6-1.8 mm.

Uniformly brown with red hypodermal pigments; anterior portion of head and tube yellow; bases of antennal segments III-V yellow; all femora and tibiae brown, concolorous with body; prominent setae yellowish.

Head about 1.2 times as long as broad, widest across cheeks just behind eyes; surface generally reticulated strongly; postocular setae a little longer than eyes, expanded apically, about 80  $\mu\text{m}$  apart from each other; all other setae minute and acute; cheeks angulated behind eyes, with some minute setae. Eyes relatively small, shorter than one-third the length of head, narrower than one-fourth the width of head, each with 25-30 ommatidia. Ocelli absent. Antennal segments VI, VII and VIII combined, with complete suture between VI and VII, only with ventral suture between VII and VIII; surface of antennal segments distinctly sculptured; segment III the longest, with three sense-cones (1+2), segment IV



Figs. 1-2. *Pentagonothrips antennalis* gen. et sp. nov. — 1. Head and prothorax, female. — 2. Left antenna, female. Scales: 50  $\mu\text{m}$ .

with four sense-cones (2+2); sensorium of segment II distinct, situated near apex. Mouth-cone short, not reaching the middle of prothorax; maxillary stylets not reaching the middle of head.

Pronotum about 0.9 times as long as head, about 1.6 times as wide as long; anteromarginal setae almost as long as anteroangular setae, epimeral setae the longest, all major setae expanded apically; coxal setae reduced. All femora and tibiae strongly sculptured; fore tarsal tooth small. Mesonotum with a pair of median setae, about 70  $\mu\text{m}$  apart from each other, expanded apically. Pterothorax

much wider than long.

Pelta shaped as an ellipse, with polygonal reticulation, with a pair of discal pores (about 100  $\mu\text{m}$  apart from each other), situated near posterior margin.

Abdomen widest in segment III, gradually narrowed towards apex;  $B_1$  setae of abdominal tergite IX longer than  $B_2$ , expanded apically; sternite VIII with a pair of stout median setae, shaping a pen, situated on posterior margin. Tube about 0.8 times as long as head, with almost straight sides. Terminal setae much shorter than tube.

*Measurements of the holotypes (apterous female) in  $\mu\text{m}$ .*

Head length from frontal margin of eye to base 168, width across eyes 133, width just behind eyes 115, width across cheeks (widest) 142, width at base 105; eye length 50, width 28–30. Pronotum length 120, width 200; fore femur length 132, width 55. Pterothorax length 160, width across mesothorax 225. Pelta length 58, width 142. Abdominal segment II length 102, width 340; IV length 118, width 340; VI length 110, width 300; VIII length 80, width 200; IX length 75, width 133. Tube length 125, width at base 67, width at apex 28.

Length of setae: Postoculars 48–50. Prothoracic anteromarginals 25–27; anteroangulars 24–26; midlaterals 25; epimerals 38–45. Metanotal median pair 27–30.  $B_1$  of abdominal tergite IX 98–100;  $B_2$  of IX 78–80. Terminal setae 68–70.

Antenna: Total length about 400.

	I	II	III	IV	V	VI	(VII+VIII)
Length	46	52	72	60	55	43	55
Width	37	31	30	29	27	23	18

*Male (apterous).* Body length 1.4–1.5 mm.

Colour and general structures almost as in female except for the smaller body and the reduced epimeral setae of pronotum.

*Measurements of the allotype (apterous male) in  $\mu\text{m}$ .*

Head length from frontal margin of eye to base 152, width across eyes 120, width just behind eyes 102, width across cheeks (widest) 130, width across base 95; eye length 45, width 27–29. Pronotum length 110, width 177; forefemur length 120, width 48. Pterothorax length 150, width across mesothorax 195. Pelta length 55, width 115. Abdominal segment II length 85, width 270; IV length 90, width 260; VI length 85, width 213; VIII length 67, width 140; IX length 75, width 95. Tube length 100, width at base 55, width at apex 25.

Length of setae: Postoculars 45–50. Prothoracic anteromarginals 25–28; anteroangulars 24–25; midlaterals 25; epimerals less than 15; posteroangulars 30. Metanotal median pair 29–31.  $B_1$  of abdominal tergite IX 82–85,  $B_2$  of IX 26–28. Terminal setae 55–57.

Antenna: Total length about 380.

	I	II	III	IV	V	VI	(VII+VIII)
Length	41	48	67	55	48	40	50
Width	35	27	30	27	25	22	17

Holotype ♀, Mt. Kiyosumi, Chiba, Japan, leaf-litter, 15-V-1976, leg. S. Okajima (Okajima no. 99).

Paratypes 17 ♀♀, 15 ♂♂ (including the allotype), same data as the holotype. The holotype, allotype and some of the paratypes are preserved in Okajima's collection.

*Other materials.* 1 ♂, Ryūanji, Mino-o, Osaka, Japan, leaf-litter, 17-X-1969, leg. K. Haga; 1 ♀, 1 ♂, same locality and habitat, 19-X-1969, leg. K. Haga; 1 ♀, Nara Park, *Podocarpus nagi* forest leaf-litter, 18-XII-1969, leg. K. Haga; 1 ♂, Futatabi-san, Kobe, Japan, leaf-litter, 29-III-1970, leg. K. Haga.

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